Trend Study 2-12-01

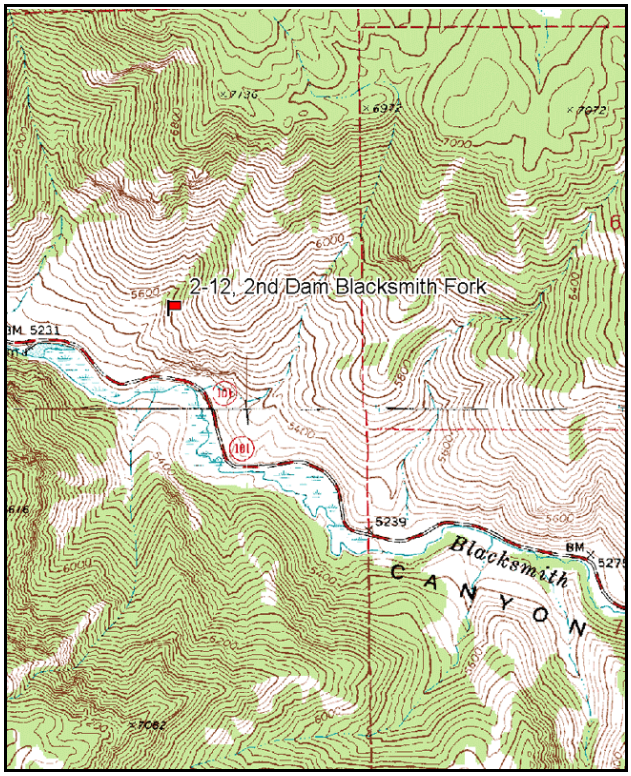
Study site name: Second Dam Blacksmith Fork . Vegetation type: Big Sagebrush .

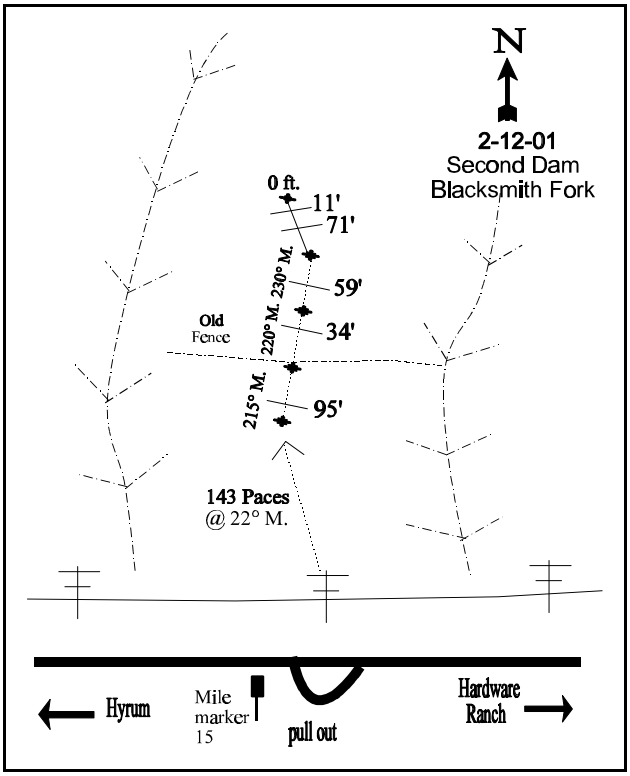
Compass bearing: frequency baseline 151 degrees magnetic.

Frequency belt placement: line 1 (11 & 71ft), line 2 (59ft), line 3 (34ft), line 4 (95ft).

LOCATION DESCRIPTION

In Hyrum, proceed east up Blacksmith Fork Canyon (U-101) to mile marker 15. Continue 200 feet to the pull-out. Look for a power pole north of the east of the pull-out. From the pole, take a azimuth of 22 degrees magnetic and walk 143 paces to the 400-foot baseline stake marked by browse tag #7985. The baseline bearing is 151 degrees magnetic. Note: due to the rocky terrain the 100-foot stake is actually at the 95 foot mark; adjust the tape and belts accordingly. Line 2 runs 230 degrees magnetic. Line three runs 220 degrees magnetic. Line 4 runs 215 degrees magnetic.





Map Name: Logan Peak

Diagrammatic Sketch

Township 10N , Range 2E , Section 1

UTM 4608526 N, 444151 E

DISCUSSION

Trend Study No. 2-12

The Second Dam Blacksmith Fork trend study samples critical deer winter range north of the second reservoir in Blacksmith Fork Canyon. This area is typical of the south-facing slopes all along the winter range within the canyon. The slope is moderately steep (35% to 40%), and elevation is approximately 5,560 feet. Utilized primarily by deer during all but the most severe winters, hedging of the dominant mountain big sagebrush and antelope bitterbrush has been heavy in the past, although deer and elk pellet groups occurred at low frequencies in 1996. A pellet group transect read on site in 2001 estimated 6 elk and 12 deer days use/acre (15 edu/ha & 30 ddu/ha). Mild winters for the past few years have likely resulted in lighter use than was observed in the past.

The soil survey goes into very little detail, simply classifying area as "Rock Land." This category includes steep mountain slopes with significant areas of exposed bedrock and very shallow soils derived primarily from limestone and quartzite. Soils show little development and tend to erode easily because of the steep slopes. The soil on the site is moderately shallow due to underlying limestone, and has an estimated effective rooting depth of just over 8 inches. The rock near the surface made soil collection and temperature readings difficult. The soil temperature at a depth of nearly 9 inches was 59° F. Rock and pavement cover on the surface is abundant and consists of dark colored limestone which elevates daytime ground surface temperatures. The soil reaction is slightly alkaline (7.4 pH). There is little bare ground exposed and erosion does not appear to be a problem. The erosion condition class was classified as stable in 2001.

Browse composition consists of a moderately low density of mountain big sagebrush with an associated sparse population of antelope bitterbrush. Other species such as Saskatoon Serviceberry, blueberry elder, Rocky Mountain maple, true mountain mahogany, and Rocky Mountain juniper provide a desirable variety of forage but they are of minor importance because of their limited abundance. Density of mountain big sagebrush was estimated at 933 plants/acre in 1984. Utilization was extremely heavy at that time as 82% of the population displayed heavy use, and the majority of the population was decadent (64%). Vigor was also poor on 29% of the shrubs. Utilization was light in 1990, but density still declined to 633 plants/acre and percent decadency rose to 68%. In 1996, density declined an additional 40% to 380 plants/acre. A further witness to the decline in sagebrush is the large proportion of dead plants (500 plants/acre) counted in 1996, which meant that more of the population was dead than alive. Utilization was light to moderate, yet vigor was poor on 16% of the population and percent decadence was still moderately high at 53%. The much larger sample used in 1996 is likely partly responsible for the change in numbers, but it is obvious that sagebrush has declined on this site. In 2001, density remained similar to 1996 at 300 plants/acre. Use was moderate on 80% of the sagebrush sampled and vigor reduced on 20% of the plants. Percent decadence remained stable at 53%.

Bitterbrush displayed a stable population density at nearly 200 plants/acre from 1984 through 1996. Use was heavy on all plants in 1984, but light to moderate in 1990 and 1996. Percent decadence was high at 67% in 1984, declining to 33% in 1990 and 0% in 1996. Utilization was moderate to heavy in 2001 with vigor remaining good on all plants during all readings. Reproduction is limited with no seedlings encountered during any of the 3 readings, and only a few young were observed in 1996. The rosaceous shrubs are apparently not as affected by the extended drought as the sagebrush and appear to recover more quickly because they are more deeply rooted.

The most abundant shrub on the site is broom snakeweed which was first picked up in 1996 with the larger sample. There were approximately 1,200 broom snakeweed plants/acre in 1996 and 1,080 in 2001. Age class structure indicates a young and possibly expanding population. The extended baseline (increased sample size) used in 1996 is partly the reason for the increased density of broom snakeweed but some snakeweed were also found along the original baseline.

Grasses and forbs are moderately abundant and produced 28% cover in 1996 increasing to 42% by 2001. The principal perennial grasses include bluebunch wheatgrass, prairie Junegrass, and Sandberg bluegrass. Three annual brome grasses are also abundant and accounted for nearly half (48%) of the grass cover in 1996. Both frequency and cover of cheatgrass brome increased significantly in 2001. Japanese and cheatgrass brome currently (‘01) account for 67% of the grass cover and 49% of the total herbaceous cover.

Forbs are diverse, yet contain few valuable perennial species. The majority are annuals or weedy biennials and perennials. Common species include pale alyssum, wild onion, arrowleaf balsamroot, bastard toadflax, tapertip hawksbeard, dyers woad, rock goldenrod, and yellow salsify.

1984 APPARENT TREND ASSESSMENT

Soil trend appears to be declining. This site has an exceptionally rocky and poorly developed soil which shows abundant evidence of down slope movement. Plant pedestalling is common and a considerable area of erosion pavement is exposed. Vegetative trend is in doubt. Upon initial examination, it appears that the key browse species are declining in density. However, the causative factors are not entirely clear. Our best estimate at this time is that trend is declining or at best barely stable.

1990 TREND ASSESSMENT

No significant changes in density or composition have occurred on this site. The browse component appears to have improved growth and vigor. The mountain big sagebrush and bitterbrush were classified as lightly hedged in 1990. No young of these key species were found and there is an excessively high percentage of decadent sagebrush (68%) in the population. Sagebrush canopy cover averages 6%. Grasses in the understory are productive and competitive. Ground cover components are unchanged on the erodible, 40% slope, as soil erosion appears to continue.

TREND ASSESSMENT
soil - down slightly (2)
browse - stable (3)
herbaceous understory - stable but in poor condition (3)

1996 TREND ASSESSMENT

Soil trend is up, with percent bare ground declining from 16% to 5%. Litter cover has increased. Mountain big sagebrush is still probably in a state of decline with a continuing high percent decadence, poor vigor, and little reproduction. Antelope bitterbrush displays a stable trend with a decline in percent decadence (33% to 0%) and light to moderate use. Overall browse trend is considered slightly down due to the condition of the sagebrush population and the high density of broom snakeweed. Trend for grasses is stable. Sum of nested frequency of perennial grasses have remained similar to 1996 levels. Sum of nested frequency of perennial forbs increased due largely to the 122-point increase in nested frequency of yellow salsify. However, the forb composition is still poor with few valuable forage species. Overall herbaceous trend is stable.

TREND ASSESSMENT
soil - up (5)
browse - slightly downward (2)
herbaceous understory - stable (3)

2001 TREND ASSESSMENT

Trend for soil is stable with similar ground cover characteristics compared to 1996. Percent bare ground is low at almost 5%. The abundance of rock and pavement on the surface armor the soil from erosion. The erosion condition class was determined to be stable. Trend for the key browse species, mountain big sagebrush and bitterbrush, appears to be declining slightly. Bitterbrush displays heavier use compared to 1996. Vigor is normal, but percent decadence has increased since 1996 to 25%. Plants were flowering and producing seed during the 2001 reading, but no seedlings and young were encountered in the density strips. It appears that some layering is occurring in these large spread out shrubs which average about 6 feet in crown diameter. Annual leader growth averaged 2.8 inches. The lower population density recorded in 2001 is likely the result of the difficulty in counting density with spread out shrubs which are reproducing by layering. Regardless of the population density, bitterbrush occurs in low numbers and does not produce much forage. Mountain big sagebrush also occurs in low numbers. It displays moderate use, and vigor is poor on 20% of the population. Although percent decadence has remained stable at 53%, 38% (60 plants/acre) of the decadent sagebrush appear to be dying and there are currently no young plants to replace these. Dead plants currently number slightly more than live plants. It is obvious that the thick cover of annual grasses and forbs combined with the high surface temperatures caused by the dark colored surface rock cover, make seedling establishment very difficult. Trend for the herbaceous understory is stable. Sum of nested frequency for perennial grasses and forbs has remained similar. However, percent cover of annual grasses has increased from 10% to 21%. The increase is a function of timing of precipitation since sum of nested frequency of annual grasses remained similar to 1996. One compositional change that has taken place is a change from mostly Japanese brome to cheatgrass. The forb composition is still dominated by annuals and weedy perennials and biennials.

TREND ASSESSMENT
soil - stable (3)
browse - slightly downward (2)
herbaceous understory - stable, but dominated by annuals (3)

HERBACEOUS TRENDS --
Herd unit 02 , Study no: 12

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
G	Agropyron spicatum	151	176	154	168	61	69	61	71	6.40	6.50
G	Bromus brizaeformis (a)	-	-	a11	b49	-	-	7	22	.03	.35
G	Bromus japonicus (a)	-	-	b280	a95	-	-	84	36	5.56	1.16
G	Bromus tectorum (a)	-	-	a213	b347	-	-	65	99	4.00	19.09
G	Koeleria cristata	18	8	11	9	8	4	3	5	.21	.11
G	Poa bulbosa	-	-	4	8	-	-	2	3	.01	.18
G	Poa pratensis	-	4	-	-	-	2	-	-	-	-
G	Poa secunda	a66	b162	b158	b164	34	70	57	65	3.68	2.92
Total for Annual Grasses		0	0	504	491	0	0	156	157	9.60	20.61
Total for Perennial Grasses		235	350	327	349	103	145	123	144	10.30	9.72
Total for Grasses		235	350	831	840	103	145	279	301	19.91	30.33
F	Achillea millefolium	6	1	-	-	2	1	-	-	-	-
F	Agoseris glauca	a-	ab1	ab3	b9	-	1	1	5	.00	.16
F	Allium acuminatum	c60	ab3	b28	a24	31	1	7	12	2.14	.09
F	Alyssum alyssoides (a)	-	-	a227	b286	-	-	74	92	.89	4.43
F	Astragalus utahensis	a2	a4	a1	b-	1	4	1	-	.03	-
F	Balsamorhiza sagittata	17	24	12	11	12	11	6	6	.43	1.60
F	Castilleja linariaefolia	-	-	-	1	-	-	-	1	-	.03
F	Camelina microcarpa (a)	-	-	-	1	-	-	-	1	-	.00
F	Calochortus nuttallii	2	1	3	-	2	1	1	-	.00	-
F	Cirsium undulatum	2	4	5	-	1	2	2	-	.19	.12
F	Collomia linearis (a)	7	-	1	6	4	-	1	3	.00	.01
F	Comandra pallida	b35	a2	ab17	a10	15	2	9	4	.07	.09
F	Collinsia parviflora (a)	-	-	7	5	-	-	3	3	.01	.01
F	Crepis acuminata	a5	b28	ab17	a8	3	14	7	5	.25	.19
F	Descurainia pinnata (a)	-	-	-	3	-	-	-	1	-	.00
F	Draba spp. (a)	-	-	-	3	-	-	-	1	-	.00
F	Epilobium brachycarpum (a)	-	-	b11	a-	-	-	5	-	.02	-
F	Erodium cicutarium (a)	-	-	-	5	-	-	-	3	-	.06
F	Eriogonum umbellatum	1	2	2	5	1	1	1	2	.15	.03
F	Galium aparine (a)	-	-	3	3	-	-	2	1	.01	.03
F	Hackelia patens	-	-	-	2	-	-	-	1	-	.00
F	Holosteum umbellatum (a)	-	-	a10	b161	-	-	5	53	.05	.81
F	Isatis tinctoria	a-	b13	b19	a-	-	7	9	-	.07	-
F	Lactuca serriola	a-	b15	ab5	c58	-	9	2	31	.06	.62
F	Linum lewisii	2	1	3	-	1	1	2	-	.03	-

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
F	Lithospermum ruderale	2	-	-	5	1	-	-	2	.03	.06
F	Lomatium grayi	$_{ab}$13	$_{b}$27	$_{a}$4	$_{a}$5	6	13	2	3	.01	.01
F	Melilotus officinalis	-	5	1	-	-	2	1	-	.00	-
F	Penstemon spp.	-	-	3	-	-	-	1	-	.03	-
F	Petradoria pumila	$_{bc}$34	$_{c}$34	$_{a}$9	$_{ab}$10	13	16	4	6	.71	.89
F	Ranunculus testiculatus (a)	-	-	13	31	-	-	5	10	.02	.07
F	Senecio spp.	1	-	-	-	1	-	-	-	-	-
F	Tragopogon dubius	$_{a}$18	$_{b}$53	$_{d}$175	$_{c}$98	8	26	74	47	2.85	1.29
F	Veronica biloba (a)	-	-	46	54	-	-	21	17	.15	.67
Total for Annual Forbs		7	0	318	558	4	0	116	185	1.17	6.14
Total for Perennial Forbs		200	218	307	246	98	112	130	125	7.10	5.22
Total for Forbs		207	218	625	804	102	112	246	310	8.28	11.36

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --
Herd unit 02 , Study no: 12

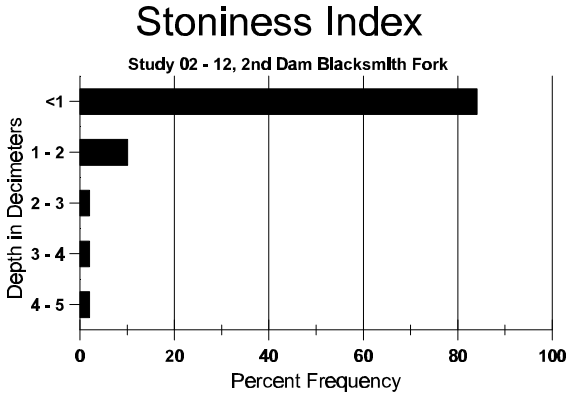
Type	Species	Strip Frequency		Average Cover %	
		'96	'01	'96	'01
B	Artemisia tridentata vaseyana	19	13	3.20	1.74
B	Chrysothamnus nauseosus hololeucus	2	2	.76	1.96
B	Chrysothamnus viscidiflorus viscidiflorus	5	4	.06	.23
B	Eriogonum heracleoides	1	0	-	-
B	Gutierrezia sarothrae	25	26	.65	.66
B	Purshia tridentata	9	5	1.99	1.41
B	Rosa woodsii	0	2	-	.15
Total for Browse		61	52	6.67	6.17

BASIC COVER --
Herd unit 02 , Study no: 12

Cover Type	Nested Frequency		Average Cover %			
	'96	'01	'84	'90	'96	'01
Vegetation	374	371	1.25	9.75	33.04	52.43
Rock	331	321	43.00	39.00	31.60	29.89
Pavement	204	190	12.25	8.25	3.85	2.98
Litter	387	362	26.25	25.00	31.88	36.83
Cryptogams	119	109	4.25	1.75	4.36	3.26
Bare Ground	197	133	13.00	16.25	4.64	4.52

SOIL ANALYSIS DATA --
Herd Unit 02, Study no: 12, 2nd Dam Blacksmith Fork

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
8.2	58.8 (8.8)	7.4	36.6	35.1	28.4	3.4	10.0	176.0	.7



PELLET GROUP FREQUENCY --
Herd unit 02 , Study no: 12

Type	Quadrat Frequency	
	'96	'01
Elk	6	1
Deer	8	4

Pellet Transect	
Pellet Groups per Acre ⁽01	Days Use per Acre (ha) ⁽01
78	6 (15)
157	12 (30)

BROWSE CHARACTERISTICS --
Herd unit 02 , Study no: 12

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Amelanchier alnifolia																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	54	47	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	51	52	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)			Dec:	
	'84	0		-
	'90	0		-
	'96	0		-
	'01	0		-

Artemisia tridentata vaseyana																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	-	2	8	-	-	-	-	-	-	8	2	-	-	333	34	30	10
	90	6	-	-	-	-	-	-	-	-	6	-	-	-	200	30	31	6
	96	7	1	-	-	-	-	-	-	-	8	-	-	-	160	30	47	8
	01	1	6	-	-	-	-	-	-	-	6	1	-	-	140	29	40	7
D	84	-	3	15	-	-	-	-	-	-	9	1	8	-	600			18
	90	13	-	-	-	-	-	-	-	-	12	-	-	1	433			13
	96	6	3	1	-	-	-	-	-	-	7	-	-	3	200			10
	01	2	6	-	-	-	-	-	-	-	5	-	-	3	160			8
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	500			25
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	340			17

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	18%	82%	29%	-32%
'90	00%	00%	05%	-40%
'96	21%	05%	16%	-21%
'01	80%	00%	20%	

Total Plants/Acre (excluding Dead & Seedlings)			Dec:	
	'84	933		64%
	'90	633		68%
	'96	380		53%
	'01	300		53%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Chrysothamnus nauseosus hololeucus																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40	47	72	2
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40	33	44	2
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	+ 0%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	40		-
	'01	40		-

Chrysothamnus viscidiflorus viscidiflorus																		
Y	84	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	2	-	-	-	-	-	-	-	-	2	-	-	-	66	15	10	2
	90	3	-	-	-	-	-	-	-	-	3	-	-	-	100	18	23	3
	96	6	-	-	-	-	-	-	-	-	6	-	-	-	120	18	30	6
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100	15	25	5
D	84	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	-24%
'90	00%	00%	00%	+29%
'96	00%	00%	00%	-29%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	132	Dec:	25%
	'90	100		0%
	'96	140		0%
	'01	100		0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Eriogonum heracleoides																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	1	-	-	-	-	-	1	-	-	-	20	3	4	1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	20		-
	'01	0		-

Gutierrezia sarothrae																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	22	-	-	-	-	-	-	-	-	22	-	-	-	440			22
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	41	-	-	-	-	-	-	-	-	41	-	-	-	820	10	16	41
	01	54	-	-	-	-	-	-	-	-	54	-	-	-	1080	9	13	54

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	-14%
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	1260		-
	'01	1080		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Purshia tridentata																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	84	-	-	2	-	-	-	-	-	-	2	-	-	-	66	28	36	2
	90	3	-	-	1	-	-	-	-	-	4	-	-	-	133	24	30	4
	96	4	4	-	-	-	-	-	-	-	8	-	-	-	160	33	76	8
	01	1	1	-	-	-	1	-	-	-	3	-	-	-	60	39	76	3
D	84	-	-	4	-	-	-	-	-	-	4	-	-	-	133			4
	90	1	1	-	-	-	-	-	-	-	2	-	-	-	66			2
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	2	-	-	-	-	-	-	-	2	-	-	-	40			2
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	100%	00%	+ 0%
'90	17%	00%	00%	-10%
'96	44%	00%	00%	-44%
'01	60%	20%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	199	Dec:	67%
	'90	199		33%
	'96	180		0%
	'01	100		40%

Rosa woodsii																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	10	6	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'84	00%	00%	00%	
'90	00%	00%	00%	
'96	00%	00%	00%	
'01	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'84	0	Dec:	-
	'90	0		-
	'96	0		-
	'01	40		-